

Three new species and distributional records of *Micrambe* C.G. Thomson, 1863 and *Cryptophagus* Herbst, 1792 (Coleoptera: Cryptophagidae) from Israel and Turkey

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Three new species and distributional records of *Micrambe* C.G. Thomson, 1863 and *Cryptophagus* Herbst, 1792 (Coleoptera, Cryptophagidae) from Israel and Turkey. - Three new species of *Micrambe* C.G. Thomson and *Cryptophagus* Herbst from Israel and Turkey are described and illustrated: *Micrambe loebli* n.sp., *Cryptophagus galilei* n.sp. and *Cryptophagus besucheti* n.sp. New data on other species of the genus *Micrambe* and *Cryptophagus* are provided.

Key-words: Coleoptera - Cryptophagidae - *Micrambe* - *Cryptophagus* - new species - Israel - Turkey.

INTRODUCTION

The object of this account, is to contribute to the knowledge of Cryptophagidae from the palaeartic region. Below, we present the results of the study of material collected by Dr. Cl. Besuchet and Dr. I. Löbl from Israel, Lebanon and Turkey. The material consist of 505 specimens, belong to 2 genera and 27 species. Of these, three are new to science and are described below under the names *Micrambe loebli*, *Cryptophagus galilei* and *C. besucheti*.

ABBREVIATIONS:

(MHNG) Muséum d'histoire naturelle, Geneva. (L) length; (WL) width/length ratio.

***Micrambe loebli* n. sp.**

TYPE MATERIAL: Holotype (male): Israël, Galilée, au dessous Safad, 500 m., 30.V.1973 (leg. Löbl). Paratypes: same date as Holotype (2 females); Holotype and 1 female in Coll. MHNG; 1 female in Coll. J.C.Otero, University of Santiago de Compostela, Spain.

Length 1.8 - 2.1 mm. Body oval, convex. Coloration reddish brown, with simple (decumbent) pubescence. Metathoracic wings well developed.

Head: eyes ($L=0.120$ mm.) normal, not prominent, with ocular facets larger ($\varnothing = 16 \mu$) (Fig. 4) than the punctures of the head. Antennae (Fig. 3) short, not reaching the rear edge of the pronotum; 1st and 3rd antennal segments equal in length, 2/3 longer than the 4th, 6th, 7th and 8th segments, which are themselves equal in length.

Pronotum transverse (Fig. 1, 2) ($WL=1.6 - 1.7$). Anterior callosities long (2/5 of length of pronotum), tapering posteriorly to a fine point, not projecting beyond the lateral edge of the pronotum; surface of callosity scarcely visible in dorsal view, punctured at its centre. Lateral pronotal margins convex in dorsal view. Pronotal puncturation (Fig. 5) small ($\varnothing=10 \mu$) and dispersed (between-puncture distance about two times puncture diameter).

Elytra three times longer than pronotum. Elytral puncturation (Fig. 6) size and dispersion as on pronotum.

Aedeagus (Fig 7) with endophallic orifice visible and prepucial sac diffuse; endophallus bearing numerous small spines and with two sclerotised rods (Fig. 9) at the end of the aedeageal apodeme. Parameres (Fig. 8) with two short apical bristles and numerous setae bearing pores on the distal half of its internal face.

DIAGNOSIS

The morphology of the pronotal callosity (long, tapering posteriorly to a fine point, scarcely visible in dorsal view) is sufficient to distinguish this species from other members of the genus. In addition, aedeagus morphology is distinctive.

ETYMOLOGY

This species is named in recognition of the generosity of Dr. I. Löbl in supplying us with the material.

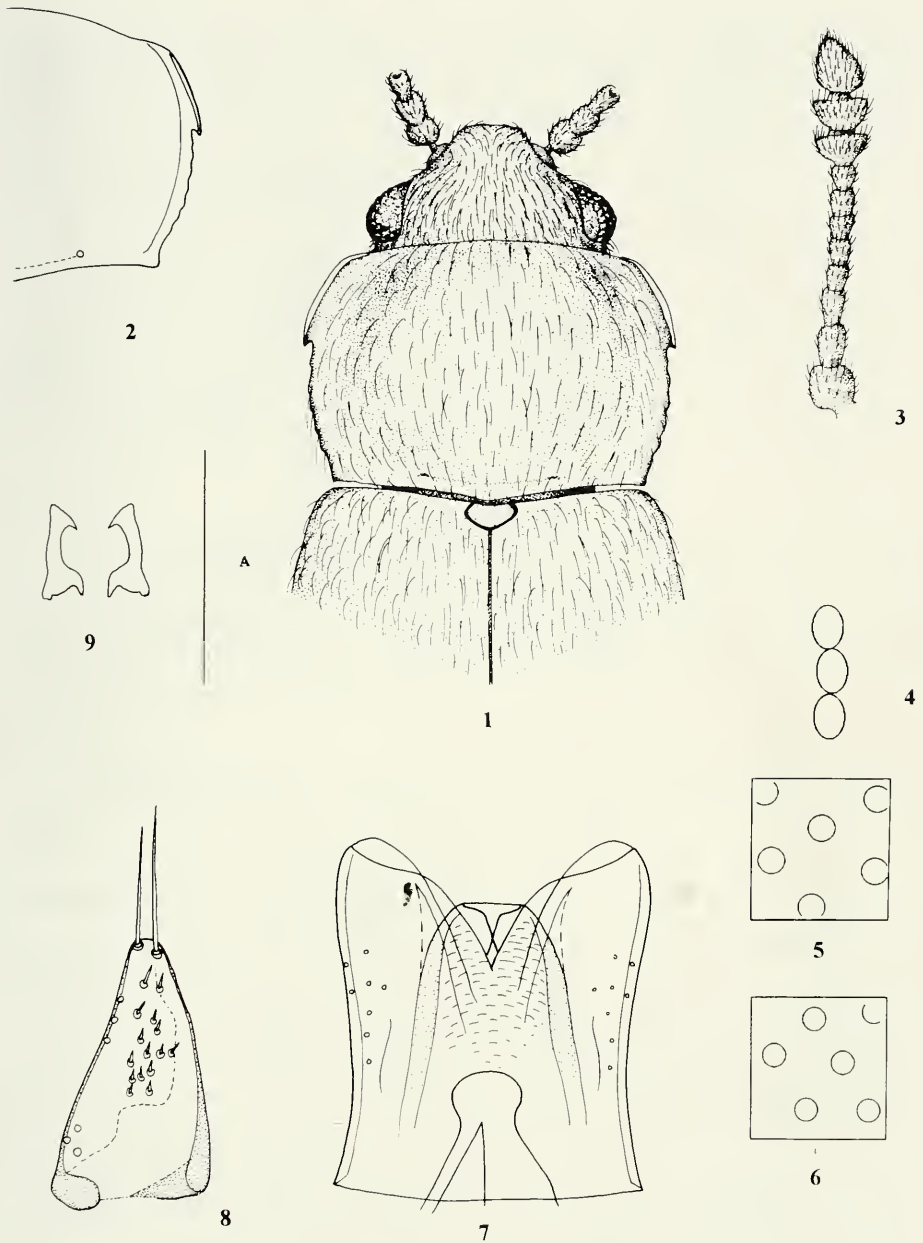
Cryptophagus galilei n. sp.

TYPE MATERIAL: Holotype (male): Israël, Galilée, Montfort, 19.IV.1982 (leg. Besuchet-Löbl) in Coll. MHNG. Paratypes: 5 males and 17 females, Israël, Galilée, Tel Dan, 24.IV.1982 (leg. Besuchet-Löbl) in Coll. MHNG; 1 male in Coll. J.C.Otero, University of Santiago de Compostela, Spain.

Length 1.7 - 2.1 mm. Body oval, convex. Coloration reddish brown, with double pubescence (erect and decumbent). Metathoracic wings well developed.

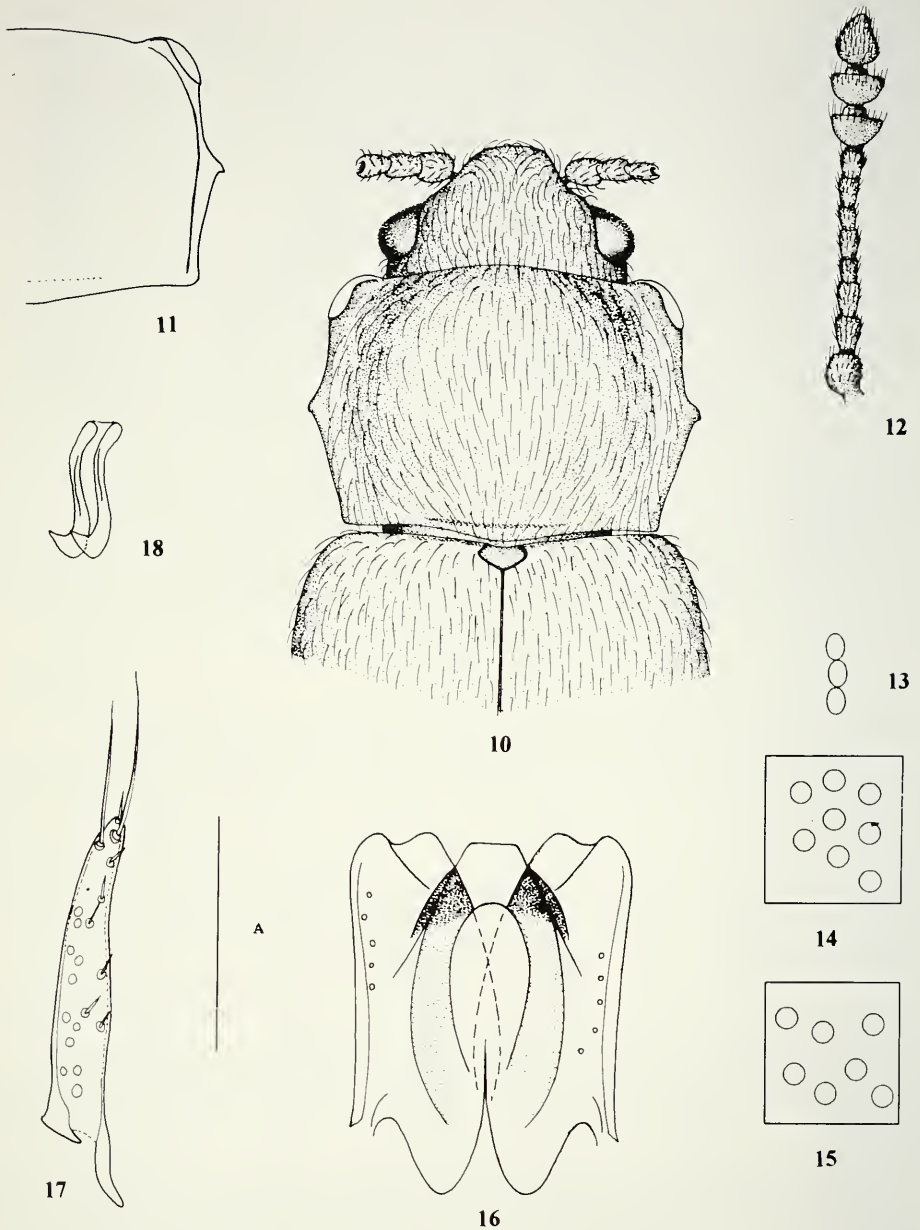
Head: eyes prominent ($L=0.090$ mm.), with ocular facets of similar size ($\varnothing=14 \mu$) (Fig. 13) to the punctures of the head. Antennae (Fig. 12) short, not reaching the rear edge of the pronotum; 2nd antennal segment 1 - 2 times longer than 3rd; 4th, 6th, 7th and 8th segments of equal length, about 2/3 of length of 2nd.

Pronotum transverse (Fig. 10, 11) ($WL=1.6 - 1.7$), as wide at base as at apex. Anterior callosities long (1/4 of length of pronotum), in dorsal view projecting beyond



FIGS 1-9

Micrambe loebli n.sp. 1: General view (A= 0,558 mm.).- 2: Pronotum (A= 0,558 mm.).- 3: Antennae (A= 0,425 mm.).- 4: Size and shape of ocular facets.- 5-6: Comparison of punctuation between pronotum and elytra.- 7-8: Dorsal view of aedeagus (A= 0,125 mm.) and left paramere (A= 75 μ).- 9: Sclerotised rods.



Figs 10- 18

Cryptophagus galilei n.sp.- 10: General view (A= 0,494 mm).- 11: Pronotum (A= 0,484 mm).- 12: Antennae (A= 0,450 mm).- 13: Size and shape of ocular facets.- 14- 15: Comparison of puncturation between pronotum and elytra.- 16- 17: Dorsal view of aedeagus (A= 0,180 mm.) and right paramere (A= 60 μ).- 18: Sclerotised rods.

the anterior edge of the pronotum but not prominent laterally; angle between the posterior edge of the callosity and the lateral wall of the pronotum obtuse. Surface of callosity scarcely visible in dorsal view, and edge not prominent. Lateral margin of pronotum bears tooth just posterior to the anterior-posterior midpoint; between tooth and base, margin straight. Pronotal puncturation pronounced; between-puncture distance less than or equal to puncture diameter ($\varnothing = 12 \mu$) (Fig. 14).

Elytra three times longer than pronotum. Elytral puncturation somewhat smaller and more dispersed than on pronotum (Fig. 15): puncture diameter about 10μ , between-puncture distance $> 10 \mu$.

Aedeagus (Fig 16) of *C. dentatus* type, with preputial sac bearing a densely granulate apical cap. Endophallic orifice visible. Endophallus bearing numerous minute spines. Aedeageal apodeme with two sclerotised rods at apex (Fig. 18). Parameres extremely thin and with a curved external edge (Fig. 17). Two short apical setae and infrequent pores, these either with or without bristles.

DIAGNOSIS

The parameres of *C. galilei* are similar to those of *C. sporadum* (extremely narrow, with few pores, these either with or without bristles). However, *C. galilei* can be distinguished from *C. sporadum* by its aedeagus (with a apical expansion in *C. sporadum*, but dentatus-type in *C. galilei*), by the configuration of the endophallic casing and by pronotum morphology.

ETYMOLOGY

This species is named in reference to the region in which the type material was collected.

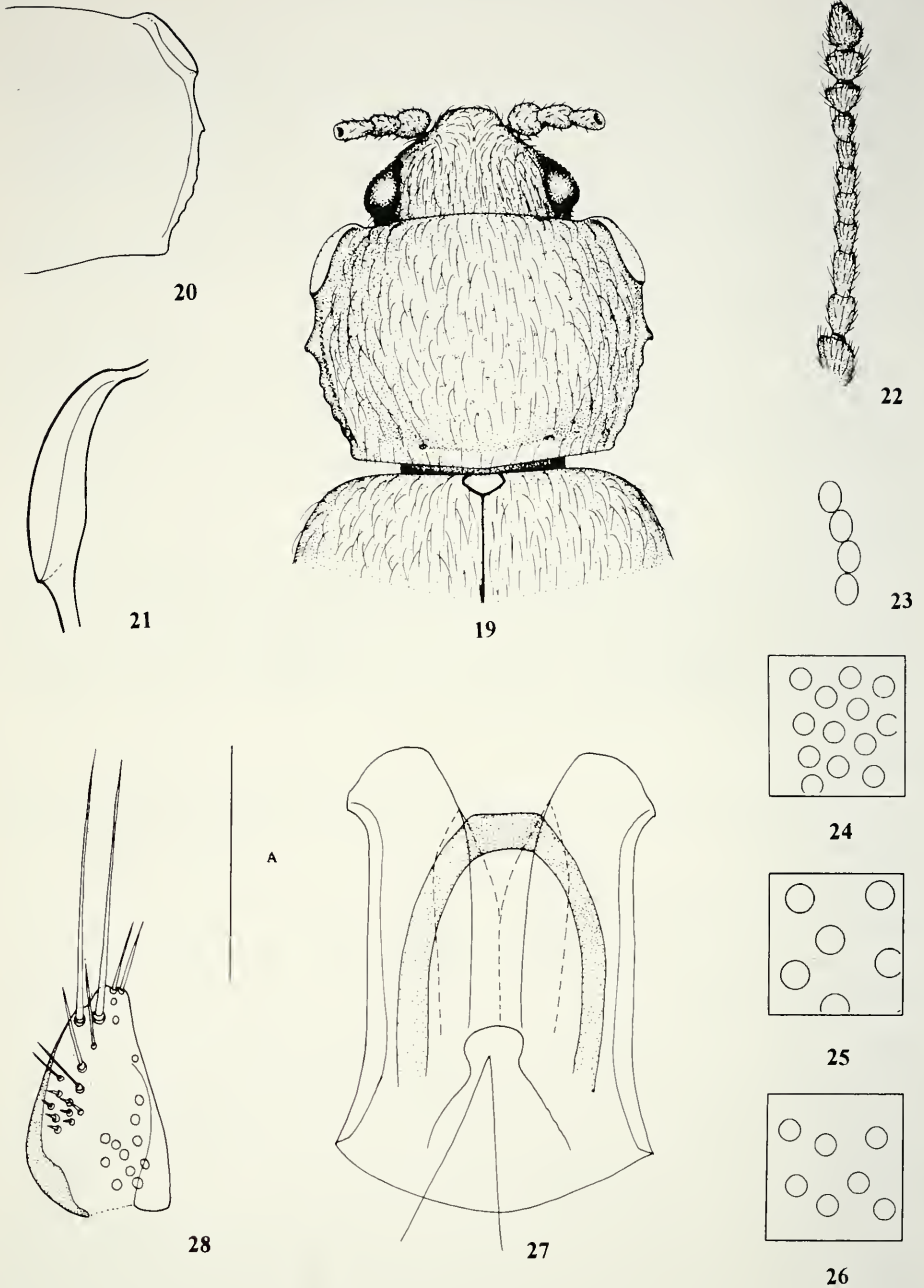
Cryptophagus besucheti n. sp.

TYPE MATERIAL: Holotype (male): Adana, Tekir, Turkey, 4.VI.1967, 1,200 m. (leg. Besuchet) in Coll. MHNG.

Length 1.9 mm. Body convex. Coloration yellowish brown, with long double pubescence (erect and decumbent). Lacking membranous wings.

Head: eyes ($L = 0.100$ mm.), with ocular facets larger ($\varnothing = 20 \mu$) (Fig. 23) than the punctures of the head ($\varnothing = 12 \mu$) (Fig. 24). Antennae (Fig. 22) not reaching the rear edge of the pronotum; 3rd antennal segment 1 - 2 times longer than 2nd; 5th, 7th and 8th segments of equal length, about $2/3$ of length of 3rd.

Pronotum moderately transverse (Fig. 19, 20) ($WL = 1.5$). Anterior callosities (Fig. 21) long ($1/4$ of length of pronotum); angle between the posterior edge of the callosity and the lateral wall of the pronotum obtuse. Surface of the callosity scarcely visible in dorsal view, punctured at its centre and with a well-marked border. Lateral tooth in middle of pronotum side. Pronotum sides rounded and converging to the base from the tooth. Pronotal puncturation (Fig. 25) pronounced and dispersed; between-puncture distance greater than or equal to puncture diameter (16μ).



Figs 19- 28: *Cryptophagus besucheti* n.sp. - General view (A= 0,546 mm.).- 20: Pronotum (A= 0,525 mm.).- 21: Callosity (A= 0,166 mm.).- 22: Antennae (A= 0,500 mm.).- 23: Size and shape of ocular facets.- 24- 26: Comparison of punctuation between pronotum and elytra.- 27- 28: Dorsal view of aedeagus (A= 0,117 mm.) and right paramere (A= 70 μ).

Elytra two times longer than pronotum. Elytral puncturation as pronounced but more dispersed than on pronotum (Fig. 26): between-puncture distance always greater than puncture diameter ($\varnothing=12\ \mu$).

Aedeagus (Fig 27) with endophallic orifice clearly visible. Parameres (Fig. 28) with two or three apical setae, these as long as the paramere itself.

DIAGNOSIS

This species forms part of the group defined by double pubescence and the lack of metathoracic wings (BRUCE 1936). Other members of this group are *C. nitidulus* Miller and *C. simplex* Miller; *C. besucheti* can be distinguished from both by the characteristic morphology of its aedeagus and parameres.

ETYMOLOGY

This species is named in honour of its discoverer, Dr. Cl. Besuchet.

ADDITIONAL MATERIAL EXAMINED

Micrambe perrisi (Ch. Brisout, 1882)

TURKEY: Bursa, 23.V.1967, 1 ex. (Wittmer); Izmir, env. Çamlık, 8.V.1975, 1 ex. (Besuchet-Löbl).

Micrambe villosus (Heer, 1841)

ISRAEL: Galilée, 30.V.1975, 1 ex. (leg. Löbl). LEBANON: Damour, 20.III.1975, 1 ex. (Besuchet). TURKEY: Samsun, 20.V.1967, 1 ex.; Adana, 5.V.1967, 2 ex.; Istanbul, 28.V.1967, 1 ex. (Wittmer); Balıkesir, Ayvalık, 15.VII.1969, 1 ex. (Besuchet).

Micrambe vini (Panzer, 1797)

LEBANON: Damour, 4.IV.75, 1 ex. (Besuchet). TURKEY: Sinop, 20.V.67, 1 ex.; Balıkesir, Ayvalık, 15.VII.69, 1 ex. (Besuchet-Löbl).

Cryptophagus cellaris (Scopoli, 1763)

ISRAEL: Mte Hermon, Golan, 23.X.82, 7 ex.; Galilée, au-dessous Safad, 14.VI.73, 1 ex. TURKEY: Isparta, Egridir, Çandır, 6.V.75; Antakya, Sogukoluk, 2.V.78, 19 ex.; 3.V.78, 1 ex. (Besuchet-Löbl).

Cryptophagus deubeli Ganglbauer, 1897

TURKEY: Kars col entre Damal-Bsof, 13.VI.1986, 6 ex., 2,400-2,500 m.; SW. Artvin, 1.VI.1986, 1 ex., 1900 m. (Besuchet-Löbl).

Cryptophagus cylindrus Kiesenwetter, 1858

TURKEY: Mugla, Cröcova, 30.IV.75, 1 ex. (Besuchet-Löbl); Istanbul, Kilyos, 8.VII.69, 2 ex.; Izmir, env. Çamlık, 8.V.75, 2 ex.; Balıkesir, Ayvalık, 15.VII.69, 1 ex. (Besuchet).

Cryptophagus hexagonalis Tournier, 1869

TURKEY: Adiyaman, Gölbası, 10.V.77, 1 ex.; Adıyaman, 10.V.67, 1 ex.; Mersin, 22.IV.67, 1 ex.; Tokat, Turhal, 21.V.67, 1 ex.; Adana, 3.V.67, 1 ex.; 5.V.67, 1 ex. (Wittmer).

Cryptophagus lapidicola Reitter, 1879

TURKEY: Artvin, Hopa-Kemalpaşa, 10.VI.86, 5 ex.; 14.V.67, 6 ex. (Besuchet-Löbl); Sinop, 20.V.75, 1 ex.; Sinop, Lala, 20.V.76, 36 ex. (Besuchet).

Cryptophagus laticollis Lucas, 1849

ISRAEL: Galilée, 24.V.75, 1 ex. (Löbl); Galilée, Eilon, N. Betzet, 22.IV.82, 1 ex.; Judée, Mevasseret, 30.IV.82, 1 ex.; Mar Muerto, Nahal Kidron, 28.IV.82, 3 ex.; Golan, Banias, 24.IV.82, 1 ex.; Mte Carmel, 17.IV.82, 2 ex. (Besuchet-Löbl). LEBANON: Damour, 24.III.75, 1 ex. (Besuchet). TURKEY: Antalya, Kemer, 4.V.75, 1 ex.; Antalya, 12 Km. du N. Mançugat, 26.IV.78, 1 ex. (Besuchet-Löbl).

Cryptophagus lycoperdi (Scopoli, 1763)

TURKEY: Muğla, Cröcek, 2.V.75, 1 ex.; Mersin, Yeniköy, 29.IV.78, 3 ex.; Antalya, Kislak, Yeniköy, 2.V.78, 1 ex. (Besuchet-Löbl).

Cryptophagus micaceus Rey, 1889

TURKEY: Istanbul, 4.VI.67, 1 ex. (Besuchet).

Cryptophagus pallidus Sturm, 1845

ISRAEL: Golan, Banias, 17.IV.82, 2 ex.; Mte Carmel, 17.IV.82, 2 ex.; 28.V.73, 1 ex. (Besuchet-Löbl); Galilée, au dessous Safad, 14.VI.73, 4 ex.; 30.V.73, 3 ex.; 26.IV.82, 2 ex. (Löbl); Galilée, Mte Meron, 21.IV.82, 1 ex.; 27.V.73, 3 ex. (Besuchet-Löbl); Galilée, Montfort, 19.IV.82, 1 ex. (Besuchet-Löbl). LEBANON: Damour, 24.III.75, 1 ex.; Beit Eddine, 30.III.75, 1 ex.; Cedres Brouk, 31.III.75, 1 ex. (Besuchet). TURKEY: Mersin, 22.IV.67, 6 ex.; Samsun, 20.V.67, 4 ex.; Turkey, V.67, 2 ex. (Wittmer); Iskenderum, 9.V.67, 1 ex. (Wittmer); Iskenderma, Sogukoluk, 9.V.67, 1 ex.; Istanbul, Foret de Belgrade, 10.VII.69, 9 ex. (Besuchet); Istanbul, Foret Tasdelen, 22.VII.69, 1 ex.; Istanbul, 8.VII.69, 2 ex.; Amasya, Bozdagh, 29.IV.75, 1 ex.; Artvin, 7.VI.86, 1 ex.; 9.VI.86, 1 ex. (Besuchet-Löbl); Artvin, Karkal Dagi, 11.VI.86, 7 ex.; Mersin, Yeniköy, 29.IV.76, 2 ex.; 29.IV.78, 1 ex.; Adana, 30.IV.78, 1 ex.; Sinop, 20.V.76, 1 ex.; Ankara, Söğüksu, 24.V.67, 1 ex.; Ordu, 18.V.67, 1 ex.; Bursa, Uludag, 22.VII.69, 1 ex.; Tunceli, 5.VI.86, 1 ex. (Besuchet-Löbl).

Cryptophagus pilosus Gyllenhal, 1827

TURKEY: Antakya, Kislak Senküy, 2.V.78, 1 ex.; Artvin, E Hopa, 10.VI.86, 1 ex. (Besuchet-Löbl); Tokat, 21.V.67, 1 ex. (Besuchet); Mersin, 30.IV.75, 1 ex. (Besuchet-Löbl).

Cryptophagus postpositus J.Sahlberg, 1903

TURKEY: Isparta, Egridir Çandır, 6.V.75, 1 ex.; Bolu, Konuralp, AkÇakoca, 15.V.76, 1 ex. (Besuchet-Löbl).

Cryptophagus pseudodentatus Bruce, 1934

ISRAEL: Mte Carmel, 28.V.73, 10 ex. (Löbl); 17.IV.82, 1 ex.; Galilée, Tel Dan, 24.IV.82, 1 ex.; Galilée, au dessous Safad, 30.V.73, 1 ex. (Besuchet-Löbl). TURKEY: Izmir, env. Çamlık, 8.V.75, 2 ex.; Izmir, Meyermana, 9.V.75, 1 ex.; Izmir, Bergama-Kozak, 18.VII.69, 1

ex.: Artvin, 8.VI.86, 1 ex.; 7.VI.86, 2 ex.; 9.VI.86, 1 ex.; Kars, 17.VI.86, 2 ex.; 16.VI.86, 1 ex. (Besuchet-Löbl); Samsun, Çarsamba, 18.V.67, 1 ex.; Antakya, Sogukulok, 3.V.78, 1 ex.; Bursa, 22.VII.69, 1 ex. (Besuchet); Antalya, Kislak-Senköy, 2.V.78, 2 ex.; Istanbul, 14.VI.67, 1 ex.; 28.IV.67, 1 ex. (Besuchet); Adana, Karatepe, 3.V.67, 1 ex. (Wittmer).

Cryptophagus reflexicollis Reitter, 1876

TURKEY: Artvin, 9.VI.86, 4 ex. (Besuchet-Löbl).

Cryptophagus saginatus Sturm, 1845

TURKEY: Bursa, Uldag, 13.VI.76, 1 ex. (Besuchet-Löbl).

Cryptophagus scanicus (Linnaeus, 1758)

TURKEY: Samsun, ÇarÇamba, 18.V.67, 2 ex.; Artvin, 7.VI.86, 3 ex. (Besuchet-Löbl).

Cryptophagus scutellatus Newman, 1834

TURKEY: Sinop, Bünmük, 20.V.76, 3 ex. (Besuchet-Löbl).

Cryptophagus setulosus Sturm, 1845

TURKEY: Gümüşhane, Erzican, Kelkit, 2 ex. (Besuchet-Löbl).

Cryptophagus skalitkyi Reitter, 1875

TURKEY: Kars, Kägizman, 18.VI.86, 165 ex.; Izmir, Meryemana, 9.V.75, 1 ex.; Artvin, 7.VI.86, 1 ex. (Besuchet-Löbl).

Cryptophagus sporadum Bruce, 1934

ISRAEL: Galilée, Safad, 30.V.73, 7 ex.; Galilée, Eilon, N. Betzet, 22.IV.82, 1 ex. (Löbl), TURKEY: Amasya, 22.V.67, 2 ex.; Mersin, Yeniköy, 29.IV.78, 1 ex.; Izmir, Meryemana, 9.V.75, 1 ex. (Besuchet).

Cryptophagus subvittatus Reitter, 1887

TURKEY: Izmir, env. Çamlık, 8.V.1975, 1 ex. (Besuchet-Löbl).

Cryptophagus thomsoni Reitter, 1875

ISRAEL: Mte Carmel, 17.IV.82, 7 ex.; Galilée, Eilon, N Betzet, 22.IV.82, 18 ex.; Golan, Mte Hermon, 23.IV.82, 2 ex. (Besuchet-Löbl). LEBANON: Damour, 4.IV.75, 1 ex.; Jeita, 26.III.75, 1 ex. (Besuchet). TURKEY: Balıkesir, Ayvalık, 15.VII.69, 3 ex.; Sinop, Lala, 20.V.76, 2 ex.; Sinop, Bektas, 20.V.76, 1 ex.; Izmir, Meryemana, 9.V.75, 1 ex.; Zonguldak, Ereğli-Baliköy, 15.V.76, 1 ex.; Konya, 7.V.78, 2 ex.; Antakya, E.Yecilkent, 4.V.78, 1 ex. (Besuchet-Löbl); Istanbul, 4.VI.67, 1 ex.; Istanbul, Foret du Tasdelen, 28.V.67, 2 ex.; Isparta, Egridir, Çandır, 6.V.75, 5 ex.; Gümüşhane, Erzican, Kelkit, 4.VI.86, 1 ex.; Manisa, Salihli, 29.IV.75, 1 ex.; Tunceli, Ovacık, 3.V.67, 1 ex. (Besuchet-Löbl); Ordu, env. Tekkiraz, 18.V.67, 1 ex.; Adana, 3.V.67, 1 ex. (Wittmer).

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